

**Effects of sown grasses and stocking rates on pasture and animal production from legume-based pastures in the seasonally dry tropics**—by Ray Jones, on pages 129–150.

A legume mixture of Siratro and Verano stylo was oversown into a speargrass-dominant native pasture in the Townsville region. Also included in 2 treatments were Rhodes grass or sabi grass (*Urochloa mosambicensis*); all paddocks were fertilised with 100 kg/ha single superphosphate every 2 years and were grazed at a range of stocking rates over 15 years.

Native perennial grasses declined as stocking rates increased, and Rhodes was the most successful grass for the first 5 years. Indian bluegrass (*Bothriochloa pertusa*) appeared in 1984 and gradually became dominant under higher stocking rates. Verano stylo was the most successful legume becoming dominant under heavier stocking until the Indian bluegrass invaded. Annual live weight gains of steers was related to the number of green grass days/yr rather than to annual rainfall. This paper provides an accumulation of knowledge gained over the decades.

**Experiences with farm pastures at the former CSIRO Samford Research Station, south-east Queensland, and how these relate to results from 40 years of research**—by Dick Jones and Geoff Bunch, on pages 151–164.

Tropical legumes and grasses from experiments at Samford were planted in farm pastures which showed how individual species persisted under farm grazing. Generally the species performed similarly in experiments and in the pastures provided the experiments were run for long enough and with appropriate grazing pressures. Short-term experiments did not show whether recruitment could compensate for the death of the original plants.

The three most persistent legumes were perennial peanut (*Arachis glabrata*), Amarillo Pinto peanut and leucaena, followed by siratro, white clover and Shaw creeping vigna. The most persistent and aggressive grass was Bahia grass (*Paspalum notatum*), followed by Queensland blue couch (*Digitaria didactyla*) and setaria.

**Spring burning and splitting of nitrogen application may affect dry matter yield and flowering of *Digitaria eriantha* (Smuts finger grass)**—by Pieter Pieterse, on pages 165–169.

In South Africa, burning Smuts finger grass while it is dormant has no effect on growth or flowering. However, burning after it starts growing in spring reduced both yield and flowering. Splitting the nitrogen application had no consistent effect on total yield but moved production towards late summer and early autumn, and reduced the density of inflorescences.

**Defoliation of *Paspalum atratum* during the growing season affects tiller and plant density the following spring**—by Rob Kalmbacher and Frank martin, on pages 170–175.

Atra paspalum pastures have declined when under-utilised in summer and then frosted in winter, for example when destocked for seed production and then not grazed after harvest in autumn. When plants were not cut back, more tillers were sub-dominant in autumn. If there is no frost, these tillers would add to or replace old tillers in the next year. But after frost, the top growth is killed and prevents new tillers growing by shading them. Fertilising compounds this by increasing the top growth during summer. Cutting every month during summer and autumn results in the highest tiller numbers and these are not over-shaded. In frost-prone areas, atra paspalum should be eaten off to prevent leaf building up before winter.

**Competition affects survival and growth of buffel grass seedlings—is buffel grass a coloniser or an invader?**—by John McIvor, CSIRO Brisbane.

See the lead article on page 1.

**Ergot resistance in plants of *Paspalum dilatatum* incorporated by hybridisation with *Paspalum urvillei***—by G.E. Schrauff, M.A. Blanco, P.S. Cornaglia, V.A. Deregibus, M. Madia, M.G. Pacheco, J. Padilla, A.M. Garcia and C. Quarin, on pages 182–186.

Interspecific hybridising vasey grass (*P. urvillei*) into a sexual biotype of dallis grass (*P. dilatatum*) and backcrossing transferred resistance to ergot to some several plants. This could be a new approach to obtain ergot resistance and improve seed production of dallis grass in Argentina.

**An observation on yield and nutritive value of *Sesbania aculeata* and its feeding to Damascus does** – by M. Zarkawi, M.R. Al-Masri and K. Khalifa, on pages 187-192.

*Sesbania aculeata*, a fast growing annual or biennial legume grown on salt-affected soils, was fed to does before mating and then through to kidding. Despite apparently reasonable feed quality of hay made from whole plants, half the does failed to produce kids. However, the remaining does grew well, had normal pregnancies and dropped kids that grew normally to weaning. All does had normal progesterone before mating. Those with normal pregnancies maintained normal patterns of progesterone; those that failed to conceive had abnormal patterns.